

PROSEP FILTER SYSTEMS LTD

IRON AND MANGANESE REMOVAL

Both metallic and some non-metallic contaminants can be removed from water by passing the water through a bed of specialised media. These media act in two ways; triggering the precipitation of the contaminant to form an insoluble particle and then physically filtering out the contamination to leave clean water. By selecting the correct media, very specific water problems can be treated easily.

IRON AND MANGANESE (Plus Aluminium and Hydrogen Sulphide)

Iron and Manganese can be removed from water by using a media which encourages reaction between the contaminant and oxygen present in water. This reaction forms an insoluble precipitate which can then be physically filtered out by the media bed. The media acts 'catalytically', which means that although it triggers the reaction it is not used up as part of the process, thus giving long life from a single filter.

A choice of media are available depending upon the exact chemical make-up of the water to be filtered. Each have their strengths and weaknesses and your local water treatment expert will be able to advise as to the best choice.

The media most commonly used are:-

BIRM, which gives good removal at a relatively low cost. Generally suited to waters that would be considered hard in nature, its performance is adversely affected by the presence of chlorine, organic contaminants and some chemical treatments.



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FILOX R, has a much higher level of activity than BIRM, and is more suitable across a greater range of waters. It is chlorine resistant and can be used to help in the removal of hydrogen sulphide (the bad egg smell that is sometimes encountered).

MANGANESE GREENSAND, generally only used in industry for iron and manganese removal, as it requires chemical regeneration (with Potassium Permanganate) to restore its activity.

TURBIDITY REMOVAL

General turbidity removal at high flows can be achieved satisfactorily down to low micron levels using a multi media filter with a layered bed of gravel, filter sand, garnet and anthracite or Filter AG media. Other specialist media may need to be added to the filter bed to improve polishing with certain types of water.

SYSTEM MANAGEMENT AND BACKWASHING

In order to remove accumulated deposits from the filter bed, the water flow through the filter is reversed (back-washed). Water is run to drain at a high flow rate to separate the deposits from the filter media. The control valve completes the backwash cycle automatically at the intervals and time set during installation. The backwash and rinse cycle takes approximately 20 minutes, although these can be altered to suit individual conditions.

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